

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (Currently amended): A method of fabricating a semiconductor device comprising the steps of:

forming an amorphous semiconductor film having an upper surface;

forming a first crystalline region by irradiating a laser beam to a first region of the upper surface of the amorphous semiconductor film by relatively moving the laser beam in a first direction with respect to the first region of the amorphous semiconductor film; and

after forming the first crystalline region, forming a second crystalline region by irradiating the laser beam to a second region of the upper surface of the amorphous semiconductor film including a portion of the first crystalline region by relatively moving the laser beam in a direction parallel to the first direction with respect to the second region of the amorphous semiconductor film;

wherein:

a wavelength of the laser beam falls in a range of 370 nm through 650 nm,

the ~~second crystalline~~ first region of the upper surface of the semiconductor film overlaps with only a portion of the ~~first crystalline~~ second region of the upper surface along the first direction.

Claim 2 (Currently amended): A method of fabricating a semiconductor device comprising the steps of:

forming an amorphous semiconductor film having an upper surface;

forming a first crystalline region by irradiating a laser beam having a shape at an irradiated face or a vicinity thereof in a linear or a rectangular shape to a first region of the upper

surface of the amorphous semiconductor film by relatively moving the laser beam in a first direction with respect to the first region of the upper surface of the amorphous semiconductor film; and

after forming the first crystalline region, forming a second crystalline region by irradiating the laser beam to a second region of the upper surface of the amorphous semiconductor film including a portion of the first crystalline region by relatively moving the laser beam in a direction parallel to the first direction with respect to the second region of the upper surface of the amorphous semiconductor film;

wherein:

a wavelength of the laser beam falls in a range of 370 nm through 650 nm,

the ~~second crystalline~~ first region of the upper surface of the semiconductor film overlaps with only a portion of the ~~first crystalline~~ second region of the upper surface along the first direction.

Claim 3 (Currently amended): A method of fabricating a semiconductor device comprising the steps of:

forming an amorphous semiconductor film having an upper surface;

forming a first crystalline region by irradiating a laser beam having a shape at an irradiated face or a vicinity thereof in a linear or rectangular shape to a first region of the upper surface of the amorphous semiconductor film by relatively moving the laser beam in a short direction of the laser beam with respect to the first region of the upper surface of the amorphous semiconductor film; and

after forming the first crystalline region, forming a second crystalline region by irradiating the laser beam to a second region of the upper surface of the amorphous semiconductor film including a portion of the first crystalline region by relatively moving the laser beam in the short direction of the laser beam with respect to the second region of the upper surface of the amorphous semiconductor film;

wherein:

a wavelength of the laser beam falls in a range of 370 nm through 650 nm,
the ~~second-crystalline~~ first region of the upper surface of the semiconductor film
overlaps with only a portion of the ~~first-crystalline~~ second region of the upper surface along the
short direction of the laser beam.

Claim 4 (Currently amended): A method of fabricating a semiconductor device
comprising:

a first step of forming an amorphous semiconductor film having an upper surface;
a second step of forming a first crystalline semiconductor film by partially crystallizing
the upper surface of the amorphous semiconductor film by a heating treatment; and
a third step of forming a second crystalline semiconductor film by irradiating a laser
beam to the crystalline semiconductor film;

wherein the third step comprises the steps of:

forming a first crystalline region by irradiating the laser beam to a first region of the first
crystalline semiconductor film by relatively moving the laser beam in a first direction with
respect to the first region of the first crystalline semiconductor film; and

after forming the first crystalline region, forming a second crystalline region by
irradiating the laser beam to a second region of the first crystalline semiconductor film including
a portion of the first crystalline region by relatively moving the laser beam in a direction parallel
to the first direction with respect to the second region of the first crystalline semiconductor film;
and

wherein:

a wavelength of the laser beam falls in a range of 370 nm through 650 nm,
the ~~second-crystalline~~ first region of the upper surface of the semiconductor film
overlaps with only a portion of the ~~first-crystalline~~ second region of the upper surface along the
first direction.

Claim 5 (Currently amended): A method of fabricating a semiconductor device comprising:

- a first step of forming an amorphous semiconductor film having an upper surface;
- a second step of forming a first crystalline semiconductor film by partially crystallizing the upper surface of the amorphous semiconductor film by a heating treatment; and

- a third step of forming a second crystalline semiconductor film by irradiating a laser beam having a shape at an irradiated face or a vicinity thereof in a linear or a rectangular shape to the first crystalline semiconductor film;

wherein the third step comprises the steps of:

- forming a first crystalline region by irradiating the laser beam to a first region of the first crystalline semiconductor film by relatively moving the laser beam in a first direction with respect to the first region of the first crystalline semiconductor film; and

- after forming the first crystalline region, forming a second crystalline region by irradiating the laser beam to a second region of the first crystalline semiconductor film including a portion of the first crystalline region by relatively moving the laser beam in a direction parallel to the first direction with respect to the second region of the first crystalline semiconductor film; and

wherein:

- a wavelength of the laser beam falls in a range of 370 nm through 650 nm,
- the ~~second crystalline~~ first region of the upper surface of the semiconductor film overlaps with only a portion of the first crystalline second region of the upper surface along the first direction.

Claim 6 (Currently amended): A method of fabricating a semiconductor device comprising:

- a first step of forming an amorphous semiconductor film having an upper surface;
- a second step of forming a first crystalline semiconductor film by partially crystallizing the upper surface of the amorphous semiconductor film by a heating treatment; and

a third step of forming a second crystalline semiconductor film by irradiating a laser beam having a shape at an irradiated face or a vicinity thereof in a linear or a rectangular shape to the first crystalline semiconductor film while relatively moving the laser beam in a short direction of the laser beam with respect to the first crystalline semiconductor film;

wherein the third step comprises the steps of:

forming a first crystalline region by irradiating the laser beam to a first region of the first crystalline semiconductor film by relatively moving the laser beam in the short direction of the laser beam with respect to the first region of the first crystalline semiconductor film; and

after forming the first crystalline region, forming a second crystalline region by irradiating the laser beam to a second region of the first crystalline semiconductor film including a portion of the first crystalline region by relatively moving the laser beam in the short direction of the laser beam with respect to the second region of the first crystalline semiconductor film; and

wherein:

a wavelength of the laser beam falls in a range of 370 nm through 650 nm,

the ~~second crystalline~~ first region of the upper surface of the semiconductor film overlaps with only a portion of the first crystalline second region of the upper surface along the short direction of the laser beam.

Claim 7 (Original): The method of fabricating a semiconductor device according to claim 1, wherein a crystalline performance of the first crystalline region, a crystalline performance of the second crystalline region and a crystalline performance of a region overlapped with the first crystalline region and the second crystalline region are the same.

Claim 8 (Original): The method of fabricating a semiconductor device according to claim 2, wherein a crystalline performance of the first crystalline region, a crystalline performance of the second crystalline region and a crystalline performance of a region overlapped with the first crystalline region and the second crystalline region are the same.

Claim 9 (Original): The method of fabricating a semiconductor device according to claim 3, wherein a crystalline performance of the first crystalline region, a crystalline performance of the second crystalline region and a crystalline performance of a region overlapped with the first crystalline region and the second crystalline region are the same.

Claim10 (Original): The method of fabricating a semiconductor device according to claim 4, wherein a crystalline performance of the first crystalline region, a crystalline performance of the second crystalline region and a crystalline performance of a region overlapped with the first crystalline region and the second crystalline region are the same.

Claim 11 (Original): The method of fabricating a semiconductor device according to claim 5, wherein a crystalline performance of the first crystalline region, a crystalline performance of the second crystalline region and a crystalline performance of a region overlapped with the first crystalline region and the second crystalline region are the same.

Claim 12 (Original): The method of fabricating a semiconductor device according to claim 6, wherein a crystalline performance of the first crystalline region, a crystalline performance of the second crystalline region and a crystalline performance of a region overlapped with the first crystalline region and the second crystalline region are the same.

Claim 13 (Previously Presented): The method of fabricating a semiconductor device according to claim 1, wherein the semiconductor device is a liquid crystal display apparatus or an EL display apparatus.

Claim 14 (Previously Presented): The method of fabricating a semiconductor device according to claim 2, wherein the semiconductor device is a liquid crystal display apparatus or an EL display apparatus.

Claim 15 (Previously Presented): The method of fabricating a semiconductor device according to claim 3, wherein the semiconductor device is a liquid crystal display apparatus or an EL display apparatus.

Claim 16 (Previously Presented): The method of fabricating a semiconductor device according to claim 4, wherein the semiconductor device is a liquid crystal display apparatus or an EL display apparatus.

Claim 17 (Previously Presented): The method of fabricating a semiconductor device according to claim 5, wherein the semiconductor device is a liquid crystal display apparatus or an EL display apparatus.

Claim 18 (Previously Presented): The method of fabricating a semiconductor device according to claim 6, wherein the semiconductor device is a liquid crystal display apparatus or an EL display apparatus.

Claim 19 (Previously Presented): The method of fabricating a semiconductor device according to claim 1, wherein the semiconductor device is employed on a device selected from the group consisting of: a portable telephone, a video camera, a digital camera, a projector, a goggle type display, a personal computer, a DVD player, an electronic book and a portable information terminal.

Claim 20 (Previously Presented): The method of fabricating a semiconductor device according to claim 2, wherein the semiconductor device is employed on a device selected from the group consisting of: a portable telephone, a video camera, a digital camera, a projector, a goggle type display, a personal computer, a DVD player, an electronic book and a portable information terminal.

Claim 21 (Previously Presented): The method of fabricating a semiconductor device according to claim 3, wherein the semiconductor device is employed on a device selected from the group consisting of: a portable telephone, a video camera, a digital camera, a projector, a goggle type display, a personal computer, a DVD player, an electronic book and a portable information terminal.

Claim 22 (Previously Presented): The method of fabricating a semiconductor device according to claim 4, wherein the semiconductor device is employed on a device selected from the group consisting of: a portable telephone, a video camera, a digital camera, a projector, a goggle type display, a personal computer, a DVD player, an electronic book and a portable information terminal.

Claim 23 (Previously Presented): The method of fabricating a semiconductor device according to claim 5, wherein the semiconductor device is employed on a device selected from the group consisting of: a portable telephone, a video camera, a digital camera, a projector, a goggle type display, a personal computer, a DVD player, an electronic book and a portable information terminal.

Claim 24 (Previously Presented): The method of fabricating a semiconductor device according to claim 6, wherein the semiconductor device is employed on a device selected from the group consisting of: a portable telephone, a video camera, a digital camera, a projector, a goggle type display, a personal computer, a DVD player, an electronic book and a portable information terminal.

Claim 25 (Previously Presented): The method of fabricating a semiconductor device according to claim 1, wherein the laser beam is a laser beam selected from the group consisting

of: a second harmonic of a YAG laser, a second harmonic of a YVO₄ laser and a second harmonic of a YLF laser.

Claim 26 (Previously Presented): The method of fabricating a semiconductor device according to claim 2, wherein the laser beam is a laser beam selected from the group consisting of: a second harmonic of a YAG laser, a second harmonic of a YVO₄ laser and a second harmonic of a YLF laser.

Claim 27 (Previously Presented): The method of fabricating a semiconductor device according to claim 3, wherein the laser beam is a laser beam selected from the group consisting of: a second harmonic of a YAG laser, a second harmonic of a YVO₄ laser and a second harmonic of a YLF laser.

Claim 28 (Previously Presented): The method of fabricating a semiconductor device according to claim 4, wherein the laser beam is a laser beam selected from the group consisting of: a second harmonic of a YAG laser, a second harmonic of a YVO₄ laser and a second harmonic of a YLF laser.

Claim 29 (Previously Presented): The method of fabricating a semiconductor device according to claim 5, wherein the laser beam is a laser beam selected from the group consisting of: a second harmonic of a YAG laser, a second harmonic of a YVO₄ laser and a second harmonic of a YLF laser.

Claim 30 (Previously Presented): The method of fabricating a semiconductor device according to claim 6, wherein the laser beam is a laser beam selected from the group consisting of: a second harmonic of a YAG laser, a second harmonic of a YVO₄ laser and a second harmonic of a YLF laser.

Claim 31 (New): A method of fabricating a semiconductor device comprising the steps of:

forming an amorphous semiconductor film having an upper surface;

forming a first crystalline region by irradiating a first region of the upper surface of the amorphous semiconductor film with a first laser beam by relatively moving the first laser beam in a first direction with respect to the first region of the amorphous semiconductor film; and

after forming the first crystalline region, forming a second crystalline region by irradiating a second region of the upper surface of the amorphous semiconductor film including a portion of the first crystalline region with a second laser beam by relatively moving the second laser beam in a direction parallel to the first direction with respect to the second region of the amorphous semiconductor film;

wherein:

a wavelength of the first laser beams falls in a range of 370 nm through 650 nm,

a wavelength of the second laser beams falls in a range of 370 nm through 650 nm,

the first region of the upper surface of the semiconductor film overlaps with only a portion of the second region of the upper surface along the first direction.

Claim 32 (New): A method of fabricating a semiconductor device according to claim 31, wherein:

a first laser beam has a shape at an irradiated face or a vicinity thereof in a linear or a rectangular shape

a second laser beam has a shape at an irradiated face or a vicinity thereof in a linear or a rectangular shape

Claim 33 (New): A method of fabricating a semiconductor device comprising the steps of:

forming an amorphous semiconductor film having an upper surface;

forming a first crystalline region by irradiating a first region of the upper surface of the amorphous semiconductor film with a first laser beam having a shape at an irradiated face or a vicinity thereof in a linear or rectangular shape by relatively moving the first laser beam in a short direction of the first laser beam with respect to the first region of the upper surface of the amorphous semiconductor film; and

after forming the first crystalline region, forming a second crystalline region by irradiating a second region of the upper surface of the amorphous semiconductor film including a portion of the first crystalline region with a second laser beam having a shape at an irradiated face or a vicinity thereof in a linear or rectangular shape by relatively moving the second laser beam in the short direction of the second laser beam parallel to the short direction of the first laser beam with respect to the second region of the upper surface of the amorphous semiconductor film;

wherein:

- a wavelength of the first laser beams falls in a range of 370 nm through 650 nm,
- a wavelength of the second laser beams falls in a range of 370 nm through 650 nm,
- the first region of the upper surface of the semiconductor film overlaps with only a portion of the second region of the upper surface along the short direction of the first and the second laser beams.

Claim 34 (New): A method of fabricating a semiconductor device comprising:

- a first step of forming an amorphous semiconductor film having an upper surface;
- a second step of forming a first crystalline semiconductor film by partially crystallizing the upper surface of the amorphous semiconductor film by a heating treatment; and
- a third step of forming a second crystalline semiconductor film by irradiating the crystalline semiconductor film with first and second laser beams;

wherein the third step comprises the steps of:

forming a first crystalline region by irradiating a first region of the first crystalline semiconductor film with the first laser beam by relatively moving the first laser beam in a first direction with respect to the first region of the first crystalline semiconductor film; and

after forming the first crystalline region, forming a second crystalline region by irradiating a second region of the first crystalline semiconductor film including a portion of the first crystalline region with the second laser beam by relatively moving the second laser beam in a direction parallel to the first direction with respect to the second region of the first crystalline semiconductor film; and

wherein:

a wavelength of the first laser beams falls in a range of 370 nm through 650 nm,

a wavelength of the second laser beams falls in a range of 370 nm through 650 nm,

the first region of the upper surface of the semiconductor film overlaps with only a portion of the second region of the upper surface along the first direction.

Claim 35 (New): A method of fabricating a semiconductor device according to claim 34, wherein:

a first laser beam has a shape at an irradiated face or a vicinity thereof in a linear or a rectangular shape

a second laser beam has a shape at an irradiated face or a vicinity thereof in a linear or a rectangular shape.

Claim 36 (New): A method of fabricating a semiconductor device comprising:

a first step of forming an amorphous semiconductor film having an upper surface;

a second step of forming a first crystalline semiconductor film by partially crystallizing the upper surface of the amorphous semiconductor film by a heating treatment; and

a third step of forming a second crystalline semiconductor film by irradiating the first crystalline semiconductor film with first and second laser beams having a liner shape, a rectangular shape or the combination of a liner shape and a rectangular shape at an irradiated

face or a vicinity thereof while relatively moving the first and second laser beams in a short direction of the laser beam with respect to the first crystalline semiconductor film;

wherein the third step comprises the steps of:

forming a first crystalline region by irradiating a first region of the first crystalline semiconductor film with the first laser beam by relatively moving the first laser beam in the short direction of the first laser beam with respect to the first region of the first crystalline semiconductor film; and

after forming the first crystalline region, forming a second crystalline region by irradiating a second region of the first crystalline semiconductor film including a portion of the first crystalline region with the second laser beam by relatively moving the second laser beam in the short direction of the second laser beam parallel to the short direction of the first laser beam with respect to the second region of the first crystalline semiconductor film; and

wherein:

a wavelength of the first laser beams falls in a range of 370 nm through 650 nm,

a wavelength of the second laser beams falls in a range of 370 nm through 650 nm,

the first region of the upper surface of the semiconductor film overlaps with only a portion of the second region of the upper surface along the short direction of the first and the second laser beams.

Claim 37 (New): The method of fabricating a semiconductor device according to claim 31, wherein a crystalline performance of the first crystalline region, a crystalline performance of the second crystalline region and a crystalline performance of a region overlapped with the first crystalline region and the second crystalline region are the same.

Claim 38 (New): The method of fabricating a semiconductor device according to claim 33, wherein a crystalline performance of the first crystalline region, a crystalline performance of the second crystalline region and a crystalline performance of a region overlapped with the first crystalline region and the second crystalline region are the same.

Claim 39 (New): The method of fabricating a semiconductor device according to claim 34, wherein a crystalline performance of the first crystalline region, a crystalline performance of the second crystalline region and a crystalline performance of a region overlapped with the first crystalline region and the second crystalline region are the same.

Claim 40 (New): The method of fabricating a semiconductor device according to claim 36, wherein a crystalline performance of the first crystalline region, a crystalline performance of the second crystalline region and a crystalline performance of a region overlapped with the first crystalline region and the second crystalline region are the same.

Claim 41 (New): The method of fabricating a semiconductor device according to claim 31, wherein the semiconductor device is a liquid crystal display apparatus or an EL display apparatus.

Claim 42 (New): The method of fabricating a semiconductor device according to claim 33, wherein the semiconductor device is a liquid crystal display apparatus or an EL display apparatus.

Claim 43 (New): The method of fabricating a semiconductor device according to claim 34, wherein the semiconductor device is a liquid crystal display apparatus or an EL display apparatus.

Claim 44 (New): The method of fabricating a semiconductor device according to claim 36, wherein the semiconductor device is a liquid crystal display apparatus or an EL display apparatus.

Claim 45 (New): The method of fabricating a semiconductor device according to claim 31, wherein the semiconductor device is employed on a device selected from the group consisting of: a portable telephone, a video camera, a digital camera, a projector, a goggle type display, a personal computer, a DVD player, an electronic book and a portable information terminal.

Claim 46 (New): The method of fabricating a semiconductor device according to claim 33, wherein the semiconductor device is employed on a device selected from the group consisting of: a portable telephone, a video camera, a digital camera, a projector, a goggle type display, a personal computer, a DVD player, an electronic book and a portable information terminal.

Claim 47 (New): The method of fabricating a semiconductor device according to claim 34, wherein the semiconductor device is employed on a device selected from the group consisting of: a portable telephone, a video camera, a digital camera, a projector, a goggle type display, a personal computer, a DVD player, an electronic book and a portable information terminal.

Claim 48 (New): The method of fabricating a semiconductor device according to claim 36, wherein the semiconductor device is employed on a device selected from the group consisting of: a portable telephone, a video camera, a digital camera, a projector, a goggle type display, a personal computer, a DVD player, an electronic book and a portable information terminal.

Claim 49 (New): The method of fabricating a semiconductor device according to claim 31, wherein the laser beam is a laser beam selected from the group consisting of: a second harmonic of a YAG laser, a second harmonic of a YVO₄ laser and a second harmonic of a YLF laser.

Claim 50 (New): The method of fabricating a semiconductor device according to claim 33, wherein the laser beam is a laser beam selected from the group consisting of: a second harmonic of a YAG laser, a second harmonic of a YVO₄ laser and a second harmonic of a YLF laser.

Claim 51 (New): The method of fabricating a semiconductor device according to claim 34, wherein the laser beam is a laser beam selected from the group consisting of: a second harmonic of a YAG laser, a second harmonic of a YVO₄ laser and a second harmonic of a YLF laser.

Claim 52 (New): The method of fabricating a semiconductor device according to claim 36, wherein the laser beam is a laser beam selected from the group consisting of: a second harmonic of a YAG laser, a second harmonic of a YVO₄ laser and a second harmonic of a YLF laser.